

Insights and news on the progress and achievements of the project

A word from the Coordinator

The leaves are turning into beautiful shades of yellow, orange and red here in the Nordics. Autumn is here and one can sense that we are now moving deliberately towards the end of NordicWay 3. In 15 months, we are closing down the project and at that time we know our project results and how close to deployment we managed to get. Deployment is one of the important topics at our upcoming project conference in Helsinki, November 8-9th. At the conference the main focus is on the pilots, to share knowledge and challenges and arrive at solutions to common issues. One of the pilots is Road Works Warning (RWW), which is highlighted in this newsletter. For Road Works Warning there are lots of activities in both Sweden and Norway focusing on implementation and we have a new Swedish Implementing Body, Ramudden, bringing lots of relevant knowledge to the team. They will provide data at pilot sites both in Norway and Sweden, where connected devices mounted on traffic safety equipment will be sharing data through the NordicWay Interchange network and thereby warning for road works ahead. I'm looking forward to learning more about this at the project conference in November. Hope to see you there!



Anna Johansson Jacques,
Project Coordinator
Trafikverket, Sweden

Fully operational Road Works Warning Mobile (RWW-RM)

NPRA together with the Norwegian entrepreneur Mesta AS and Swedish software company BM Systems aim to bring the C-ITS service RoadWorksMobile into operation by 2023. As part of NordicWay 2, NPRA developed a proof of concept with NPRA vehicles and an inhouse back-office system.

To develop this further and to implement it as a 24/7 service within NordicWay 3, NPRA and entrepreneur Mesta agreed to include the maintenance fleet of Mesta AS to serve as data producers and distribute RWW-RM C-ITS messages to the NordicWay Interchange network.



Figure 1 Mesta maintenance vehicles at work

The agreement is to include maintenance vehicles from 3 large maintenance contracts in Norway, covering about 1300 km of the road network. The number of maintenance vehicles included will be about 200.

The data from the fleet working at the road network will be sent to the BM Road service system, a management system adapted for operation and maintenance work on roads. When the speed of the vehicles is below 50 % of the actual speed limit, it will generate



an event message that includes speed and position. To produce standard (Etsi/Datex) messages of the event, BM systems will send messages into the C-ITS server (developed by Aventi), and then forward the RWW-RM C-ITS messages to the NordicWay Interchange. This process is shown with the green arrows in Figure 2.

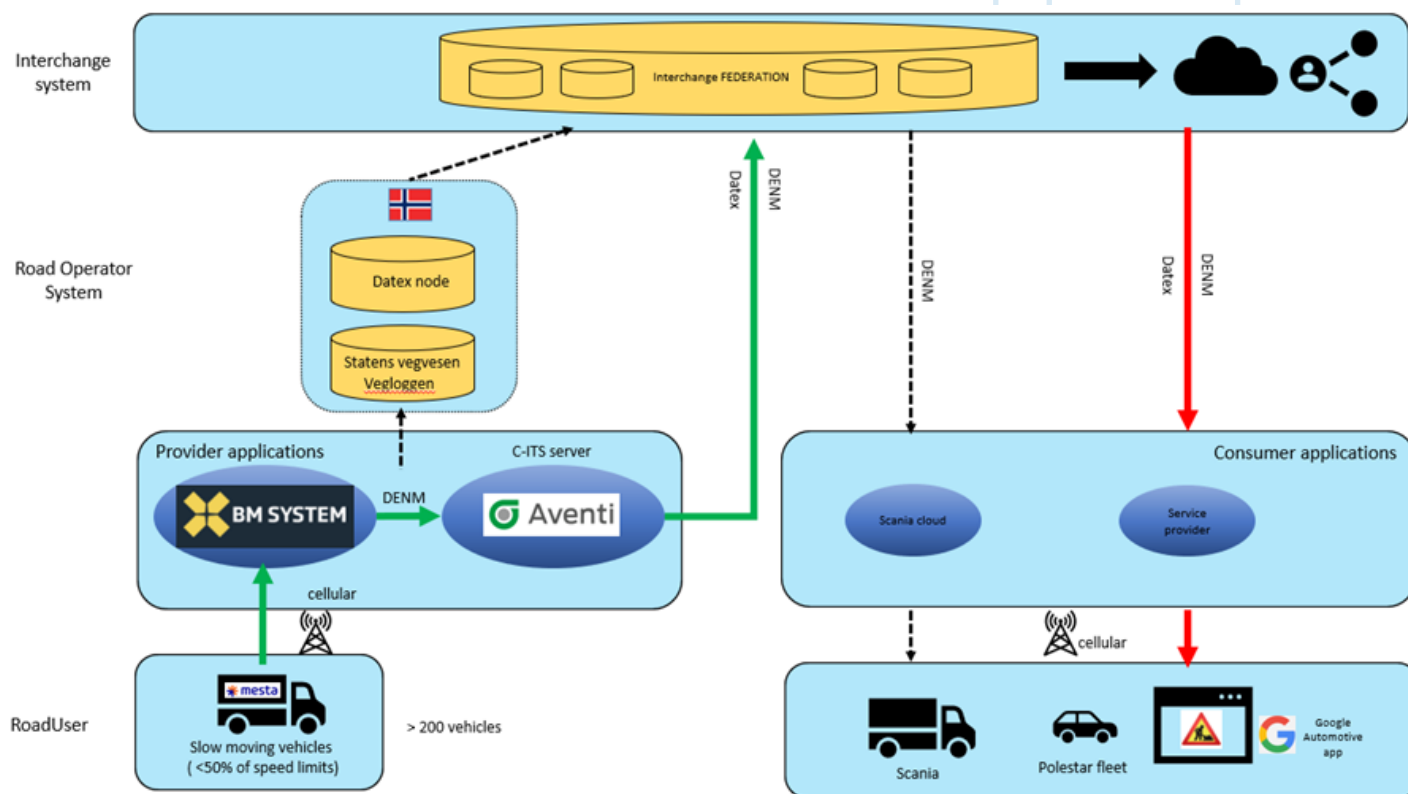


Figure 2 System architecture RoadWorksMobile

C-ITS messages available at the Interchange will be consumed by service providers who will make the service available to road users, see Figure 2, red arrows. The company FourC is a service provider that brings the RWW-RM information into the vehicles. The FourC C-ITS service also includes a data logging function, and data will be analysed to see if there are changes in driver behaviour, such as reduced speed, compared with those without the service. The C-ITS service will be available by early 2023 in a NPRA vehicle fleet of about 150 Polestar vehicles.

Contact person: Per Einar Pedersli, Vegdirektoratet,
per.pedersli@vegvesen.no



Swedish part of Road Works Warning (RWW) pilot

The Swedish RWW pilot aims to bring C-ITS services into operation in 2023. There have been smaller projects within NW3 that have been very successful. Different data sources have been located and added to the project with good results.

The process: Incidents or information from road contractor vehicles on the road generates data which is sent to a Combitech Cloud where the information is verified and aggregated. The information is packaged into C-ITS messages (DENM) format and forwarded to the NordicWay Interchange where they are published. OEM and other stakeholders can then subscribe to the service. See figure 3.

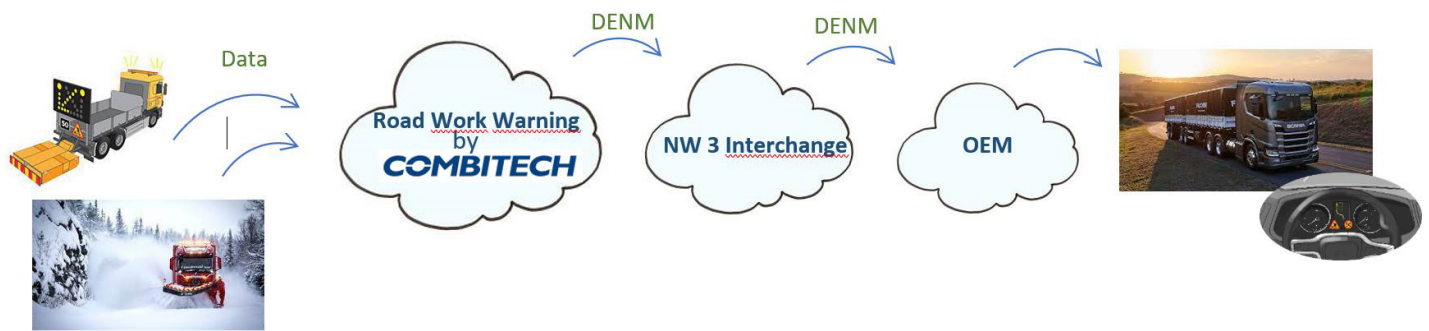


Figure 3 Process in Swedish part of RWW pilot

In November 2022 there will be a scaling up. The subcontractors Svevia Peab Terranor and Skanska will connect their fleet to the Combitech Cloud. One road corridor is Gothenburg-Jönköping-Stockholm and another is Malmö-Helsingborg-Jönköping-Stockholm. In these corridors we will cover all activities regarding operation and maintenance from the road contractors. We will also connect some stationary road works in a limited area around Borås.

All the information from the pilot will be available on the NordicWay Interchange as C-ITS messages. The project also includes some measurements to observe road user behaviour, and collecting data for analysis and statistics will be done as well.

We are very excited to get the project off the ground and expect a big step towards a full rollout of the service to provide safer work zones along our roads. This would not have been possible without NW3 and the network it provides.

Contact person: Thomas Andersson, Combitech
thomas.andersson2@combitech.com



Highlights from RWW workshop 22-23 June in Stockholm

June 22nd and 23rd the flagship pilot Road Works Warning organized a workshop in Stockholm. The workshop was held in the office of Sweco and 20 persons attended, representing road authorities, service providers, entrepreneurs, consultants and OEMs.

The workshop focused both on how to ensure a successful operation and evaluation of the pilot as well as the road map to ensure that the RWW services are viable and operable after the end of the NW3 project.

Mesta AS, BM Systems, Ramudden, Combitech and Knowit presented their motivation for taking part in the pilots and gave a short pilot status. The entrepreneurs highlighted that the RWW will reduce accidents and exposure to harmful situations for their employees working at the roadside, and of course the same for all vehicles driving along the road.

With so many pilot sites and actors there is still further need for coordination and exchange of learnings.

To give the development of sustainable ecosystems more attention, a working group was set up and has started the work this year. This work also includes a framework for RWW specifications based on existing standards and tender procedures from each of the countries.

When it comes to evaluation, the following points were discussed.

- benefits
- costs
- available data and quality of data

Final comments from the participants were that this was a very useful workshop because of the active involvement of the participants. Also, a thanks to Sweco for organizing both the workshop and the dinner meeting in the evening - well done.

For those who have access to the NW3 SharePoint you will find presentations here:

[Workshop Jun 22&23-22](#)

Contact person: Per Einar Pedersli, Vegdirektoratet,
per.pedersli@vegvesen.no

For general comments or feedback contact
anna.johansson-jacques@trafikverket.se



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